THE EDUCATION OF THE HAND AND EYE.

THIS was the subject of an essay read by Mr. G. Wallis, at a *conversazione* lately held at the Royal Institution, Manchester, when he very properly urged the desirability of every person knowing how to delineate simple forms, and referred to the inefficiency of the mode of teaching generally pursued. It was really astonishing, he said, how little of true principles were obtained in the general practice of teaching drawing; but this, though at first sight it might be attributed to the drawing-master, was, in reality, the fault of the pupil and his parents. The pupil is determined that, from the outset, he will draw nothing but houses, men, horses, &c., and the parent is equally determined that the child shall commence at once to fill the family portfolio with drawings in the *album style*, which, if the pupil cannot execute himself, of course it is the duty of the master to execute for him, so that it is all the same thing. By this the master retains the pupil, the parent obtains certain drawings, or supposed specimens of the child's genius, but the latter, though he may make drawings, rarely learns to draw. Now all this arises from a misapprehension in both parent and pupil as to the real purposes of the art of drawing. It is no fault of the drawing-master, unless they choose to blame him for the misfortune of being compelled to cater to this misapprehension; for if he dared to attempt to teach upon a true and proper principle his classes would soon be empty. The truth was that all intelligent drawing-masters *knew* better, but feared *to do* better. No parent expected that when his son began to learn Latin or Greek he would come home at the end of the first quarter, and read even a dozen lines of Virgil correctly, or translate the argument of the Iliad, yet it was something very like this to expect the same boy to come home with a portfolio of pretty pictures at the end of the same period of time.

Mr. Wallis then directed the attention of his audience to what he proposed to call the eight primitive motions of the hand in drawing, each of which was totally distinct from the other, and under the various heads of which all lines might be classified,—viz., four right lines, the perpendicular, the horizontal, the diagonal left, and the diagonal right; four curves, comprised in the circle, the upper convex, the lower convex, the upper concave, and the lower concave. These were his alphabet of form: and he was satisfied that no person could draw with accuracy, unless he could delineate them, and these were the elementary lines which every child should be carefully taught at the outset. But in saying this, he did not desire to impress upon them the notion that the very young child was to be constantly kept at these lines, or strictly carried through a geometric course, though he believed from experience that in older pupils such a course was desirable; but what he desired to insist upon, was the fact, that in these eight lines we had the key to all form. The question then arose, what should be the next step, supposing a proper degree of exercise had been given to the hand in drawing these primitive lines? He had no hesitation in saying that it ought to be natural objects, but reduced to a plane in the first instance, inasmuch as solid models in which perspective projections had to be calculated upon, only served to perplex the pupil, and drive him from the study in despair or disgust. In order to explain his meaning, Mr. W. produced some dried leaves mounted on paper, and crossed by the two primitive lines, the horizontal and perpendicular, to assist the pupil in judging of the proportion of the various parts of the leaf, and also of the nature of the curves forming the outline. Those kind of examples, he maintained, were within the reach of every man, and they were better examples than the hand of any man, whatever might be his talent, could produce of their particular kind.

ASSESSMENT OF GRAVESEND.—Tenders for the survey and re-assessment of Milton and Gravesend having been sent in, that of Messrs. Burr and Son, of Rochester, has been accepted. The work will be commenced immediately.

A NEW PEN.

DR. SPURGIN, one of the directors of the Polytechnic Institution, and to whom the public is already indebted for several ingenious inventions, has just now patented a new pen, which promises to have important advantages, without being in any degree costly. These are the retention of a large quantity of ink, sufficient, for example, to write a letter without again dipping the pen, and the prevention of corrosion. Capillary attraction and galvanism are the principles involved, and the means employed are very simple. Within a common iron pen, a small plate of zinc, bent to follow the line of the pen, is secured by points of solder at a short distance from the former, by means of which the ink is securely retained, and a galvanic current is kept up.

The progress of the manufacture of *gold* pens, in America, will serve to show the extent of business which may be done in an article of this kind when successful. The *Charleston Courier* (U.S.), says the first gold pen was made in New York, in 1838, and now the principal manufacturer of them employs a capital of 80,000 dollars in the undertaking. In the manufacture of pens, the gold is first rolled out in ribbons, and then cut with a die to the proper shape, the points put on, and then ground down to the required nib. The points are of iridium, a new metal found with platinum. The points are all imported, generally without the ceremony of an introduction to the Custom-house, and cost from 7 to 55 dollars per ounce. The pens and cases sell from 10 to 30 dollars per dozen. It is not easy to make an estimate of the number of pens manufactured per annum, but it is probably not less than 1,000,000, of which one manufacturer, Bagley, makes nearly half. A person who had not thought of the subject, would scarcely suppose that 800 lbs. of gold were used up every year in America in the manufacture of such a trifling article as pens, a business unknown ten years ago—yet such is the fact. A statement of the *tons* of iron worked into pens in England, every year, would be even more startling, and would show that Dr. Spurgin's improvement, simple as it appears, may, if it fulfil its promises, be more productive than some larger matters.

The endless ladder invented by the same gentleman for raising materials in the course of the erection of buildings, has been used, and is being used in various quarters, but through the mismanagement of an agent, brings nothing to the inventor. Unluckily this is too often the case.

EXPRESSION IN SCULPTURE.

SIR,—An exquisitely chiselled form, without drapery, figures in the catalogue of a collection recently visited, as "Modesty;" yet she looks at you as much as to say, "What do you think of me, now I am naked?" I quarrel not with an occasional want of drapery, but with this indelicate stare (or as indelicate demission of the eye), which clearly shews us that the lady must know that we are inspecting her. Now, Sir, I feel a conception within me of what sort of statue I would make if I were a sculptor, or which I could ever love to look upon. It is this:—Along with that spotless form, and far more engrossing, I see some lovely or striking trait of mind, that the sculptor had for one moment caught, and quick as thought transferred to stone, and fixed it there for ever. The figure appears but that moment (the moment of rest) to have ceased assuming its present attitude, the purpose of which is unmistakeable. She is clearly unconscious that mortal eye is upon her, therefore she does not look upon us; else were the charm broken, and she no longer real,—for since Eve fell, the secret charms of body and mind are not to be seen together. As we gaze we feel, and scarce without compunction, that we are illicit peepers, stealing our enraptured glance at the secret thoughts of that pure being, thus utterly unconscious that eye is upon her—thoughts which she would no more profane, if she knew it, by exposure to others, than she would the virgin charms of her undraped person.

She is apparently of the exact size of life. Her features are of no school cut, but exactly appropriate to the character of emotion described; other features being really incapable of it, in the intensity displayed, and therefore undeceiving the correct eye.

If we have a group, or a male figure, we require the same idea of entire unconsciousness of our gaze, a sort of fairy veil to protect intact, unsullied, the fine thought described. The mind of the figure or figures must be unmistakeably fixed on a definite object,—a Coriolanus must not fume *at us*, as if we were the plebs, or he becomes a strutting actor; but a Napoleon may stand encased in his own cold dignity, although the world be by. Our age excels in delineating expression to its nicest shade. The power has indeed been too much abused to low caricature—but since it exists, we may expect yet to see it displayed in statuary, unequalled for delineating the mind.

THE GAS MOVEMENT—COST OF GAS.

To the Commissioners of Sewers for the City of London.

GENTLEMEN,—On the 10th February last, in your Court-room, some experiments were made with my gas burner against the bat's-wing. I have to call your attention to the first of them.

You will not fail to remember that Mr. George Lowe, on behalf of the Chartered Gas Company, provided the meters; that he took the choice of meter for either burner—that the officers of the Chartered Gas Company hung up a dark cloth on the wall, at the back of my burner, to prevent reflection—that Mr. Lowe brought his own photometer—that the gas was not purified under my process, and admitted to contain some ammonia.

After a tedious hour in preparation, Mr. George Lowe's experiment was completed. I take from your minutes the results both as to consumption and distances of each burner from Mr. Lowe's photometer.

The mean of two experiments as to consumption of gas was—

	Tenths of a cubic foot.		Tenths of a cubic foot.
Leslie's burner	46·2	The bat's-wing	53·2
	Inches.		Inches.
Distance from Mr. Lowe's photometer.....	146·75	Distance from Mr. Lowe's photometer.....	140·75

The excess of gas wasted by the bat's-wing is thus shewn to be 19·16 per cent.

The excess of light from the diminished quantity of gas is shewn by squaring the two distances from Mr. Lowe's photometer, the square of the bat's-wing being 19,810, the square of the distance from my burner being 21,538, shewing a greater intensity of light from my burner of 8·76 per cent. These facts on your records have entirely escaped the notice of the reporters for the public press; they were elicited by the experiments of my opponents. You will do me the favour to remember that you have not yet seen my experiments.

Here there is demonstrated an enormous waste of gas, as well as a great loss of light, all paid for by the citizens of London. This "waste of gas" will ultimately turn out to be a splendid source of dividend to the shareholders of the Chartered Gas Company (and other companies too), when they are wise enough to look a little more into their own affairs.

Mr. George Lowe, civil engineer to the Chartered Gas Company, has been appointed by her Majesty's Commissioners of Woods and Forests, under the 9th and 10th Victoria, c. 106, to inquire in cases where applications to Parliament are intended for new gas works, or extensions of old gas works. The parties and witnesses are examined upon oath before "the court,"—"the court" reports to the Woods and Forests, with the evidence taken, and both are printed by order of the House of Commons. I have purchased the whole of these reports, and all the evidence. I have selected one case as worthy of your especial attention: it cannot be excepted to by my opponents, because Mr. George Lowe, civil engineer to the Chartered Gas Company in London, was metamorphosed by the Act of Parliament into being "the court" at the Session-house at Liverpool, on the 13th day of February, 1847, when and where he was

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